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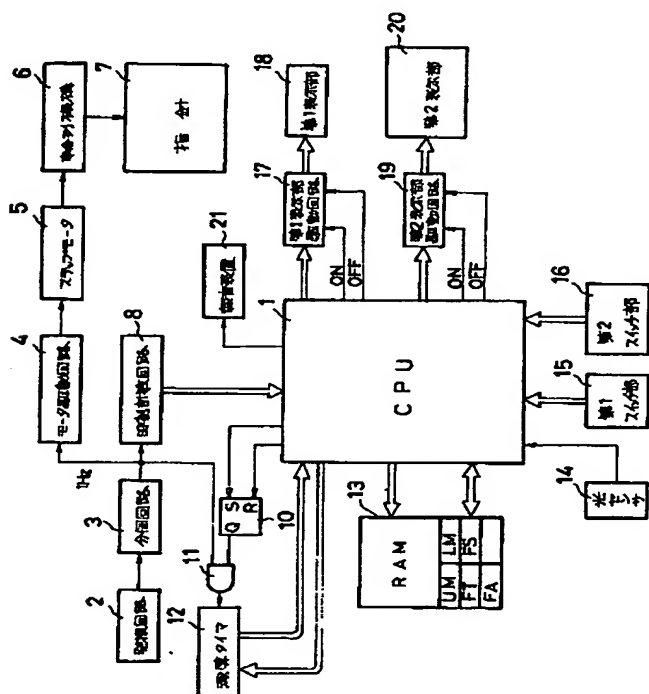
Epitome

(57) [Abstract]

[Objects of the Invention] After closing upper housing, the electronic equipment with a case which can be opened and closed and which can avoid the error of the measurement result by having closed upper housing for the place which should carry out measurement initiation actuation to compensate for initiation of movement for measurement after measurement initiation actuation, and having started the actuation for measurement is offered.

[Elements of the Invention] It considered as the configuration centering on CPU1, and when the start stop switch S1 of the 1st switch section 15 was operated when upper housing is open, and initiation of measurement of the remaining time by the subtraction timer 12 was directed, the above-mentioned measurement was actually started from the time of detecting that upper housing was shut from the output of a photosensor 14.

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CLAIMS

[Claim(s)]

[Claim 1] Electronic equipment with a case which can be opened and closed [which is characterized by providing the following]. Lower housing Upper housing attached in this lower housing free [closing motion] A closing motion detection means to detect closing motion of a section case besides A functional means for it to be prepared in said upper housing or said lower housing, and to perform a predetermined function, A switch operational from the outside for making actuation of this functional means start, When said detection means has detected the closed state of upper housing, actuation of said functional means is made to start from the time of actuation of said switch, when this switch is operated. The initiation control means of operation which makes actuation of said functional means start after predetermined time from actuation of said switch when said detection means has detected the open condition of upper housing

[Claim 2] Electronic equipment with a case which can be opened and closed [which is characterized by providing the following]. Lower housing Upper housing attached in this lower housing free [closing motion] A closing motion detection means to detect closing motion of a section case besides A functional means for it to be prepared in said upper housing or said lower housing, and to perform a predetermined function, A switch operational from the outside for making actuation of this functional means start, When said detection means has detected the closed state of upper housing, actuation of said functional means is made to start from the time of actuation of said switch, when this switch is operated. The initiation control means of operation which makes actuation of said functional means start when said detection means has detected the open condition of upper housing, said upper housing is closed and said closing motion detection means detects a closed state

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the electronic equipment with a case which can be opened and closed.

[0002]

[Description of the Prior Art] With the conventional, for example, guide, type electronic wrist watch, in order to attain the multi-functionalization, clock housing is constituted from lower housing and upper housing attached by this free [closing motion], and what prepared the guide display in the upper housing top face, and prepared the digital display section in the upper housing inferior surface of tongue is put in practical use. And a data bank function, a count function, a stop watch function, subtraction timer ability, etc. are added to this kind of guide type electronic wrist watch in many cases in addition to the time stamp function.

[0003]

[Problem(s) to be Solved by the Invention] By the way, when measuring movement time amount (for example, time amount while jogging etc.) and the expedient nature of the cellular phone under movement is considered by the multi-functionalized stop watch function or subtraction timer ability of a guide type electronic wrist watch like the above, using, where upper housing is closed is desirable. However, in advance of measurement of movement time amount, a data bank function etc. opens upper housing, when having adopted the function using the display of this inferior surface of tongue, where upper housing is opened carelessly, switch actuation of measurement initiation may be performed, after that, in such a case, upper housing will be closed confusedly, and it will start movement the appropriate back. Therefore, the movement time amount which it shifted slightly in such a case and the measurement initiation and movement initiation time measured will become so inaccurate. After this invention is made in view of the situation like **** and closing upper housing, it aims at offer of the electronic equipment with a case which can be opened and closed and which can avoid the error of the measurement result by having closed upper housing for the place which should carry out measurement initiation actuation to compensate for initiation of movement for measurement after measurement initiation actuation, and having started the actuation for measurement.

[0004]

[Means for Solving the Problem] In invention of claim 1, when upper housing was open and there was measurement initiation actuation, measurement was started after predetermined time progress from the time of the actuation concerned. In invention of claim 2, when upper housing was open, there was measurement initiation actuation, and upper housing was closed after that, measurement was started.

[0005]

[Example] Hereafter, the invention in this application is concretely explained based on the example shown in a drawing. First, although the 1st example is explained, drawing 1 shows the circuitry of this example. That is, this example has composition which other circuit sections connect to this focusing on CPU1. CPU1 is the circuit section which sends a control signal for the signal from each circuit to each circuit based on a receipt and them, and controls them while it processes and processes the data sent and sends them out.

[0006] An oscillator circuit 2 is a circuit which always sends out the signal of constant frequency, and is a circuit where a frequency divider 3 carries out dividing of the signal from the above-mentioned oscillator circuit 2 even to 1Hz, and sends out this 1Hz signal to the motorised circuit 4, the time-of-day counting circuit 8, and AND gate 11. The motorised circuit 4 is the circuit section in which only a fixed include angle rotates a step motor 5 whenever it receives the above-mentioned 1Hz signal, rotation of a step motor 5 is given to a guide 7 through the wheel train device 6, and movement is presented with it. The time-of-day counting circuit 8 is a circuit which carries out counting of the 1Hz signal from the above-mentioned frequency divider 3, obtains current time, and gives it to CPU1. RS flip flop 10 is a circuit which is made into a set or a reset condition by the signal from CPU1, and sends out an output Q in a set condition. AND gate 11 is a circuit as for which Kaisei is carried out by the output Q from RS flip flop 10 and which gives 1Hz signal from a frequency divider 3 to a timer 12. A timer 12 is always a circuit which sends out the time amount set at the time to CPU1 while making short time amount set whenever the time amount spent from CPU1 is set and the above-mentioned 1Hz signal is sent only for 1 second.

[0007] RAM13 is a circuit which sends out the data which have memorized and memorized the data sent from CPU1 to the bottom of control of CPU1 to CPU1. It is the register which specifies the mode concerning the 1st below-mentioned display 18, the 1st display mode register UM in RAM13 concerned specifies the 1st time stamp mode which displays the current time from the time-of-day counting circuit 8 on the 1st display 18, when a set value is 0, when a set value is 1, uses this example as a subtraction timer, and specifies the 1st timer mode which displays the residual time of **** on the 1st display 18. The 2nd display mode register LM is a register which specifies the mode concerning the 2nd below-mentioned display 20. When a set value is 0, specify the 2nd time stamp mode which displays the current time from the time-of-

day counting circuit 8 on the 2nd display 20, and when a set value is 1 Use this example as a subtraction timer and the 2nd timer mode which displays residual time on the 2nd display 20 is specified. When a set value is 2, the data bank mode which displays data on the 2nd display 20 is specified using this example as the data bank, when a set value is 3, this example is used as an electronic calculator and the calculator mode which displays a count result etc. on the 2nd display 20 is specified. The open status flag FT is a flag register to which 1 is set, while opening the top face of 0 and lower housing 33, when the below-mentioned upper housing 31 has covered and closed the top face of lower housing 33. Flag FS is a flag register to which 1 is set to while performing measurement actuation as a subtraction timer, and 0 is set when omitting this measurement actuation during measurement. As for the waiting flag FA, when it is in the condition that upper housing 31 is opened and the below-mentioned start stop switch S1 is operated for measurement initiation, 1 is set, and for 10 seconds after the point in time is the flag register to which 0 is set, when other.

[0008] A photosensor 14 is the circuit section which detects outdoor daylight and gives a detection output to CPU1, when it is prepared in the top face of lower housing 33 and upper housing 31 is opened like the after-mentioned. The 1st switch section 15 is the circuit section which sends out a switch input signal to CPU1, when it has start stop switch S1 grade and these either is operated. The 2nd switch section 20 is the circuit section which sends out a switch input signal to CPU1, when it has a below-mentioned mode switch SM, a below-mentioned ten key, etc. and these either is operated.

[0009] The 1st display drive circuit 17 is the circuit section which the OFF signal from CPU1 is received, it starts in response to ON signal from CPU1, and the 1st display 18 is driven, it is the circuit section which suspends this actuation, and the 1st display 18 is equipped with the below-mentioned 1st liquid crystal display panel 32a while making the data sent to this from CPU1 display, and carries out digital display of the residual time of the subtraction timer 12 etc. to this. Moreover, the 2nd display drive circuit 19 is the circuit section which the OFF signal from CPU1 is received, it starts in response to ON signal from CPU1, and the 2nd display 20 is driven, it is the circuit section which suspends this actuation, and the 2nd display 20 is equipped with the below-mentioned 2nd liquid crystal display panel 35 while making the data sent to this from CPU1 display, and carries out digital display of the various data to this. Alarm sound equipment 21 is the circuit section which generates an information sound under control of CPU1.

[0010] Drawing 2 shows the appearance of this example and this drawing (a) shows the condition of having closed the upper housing 31 attached in lower housing 33 free [closing motion] on lower housing 33. That is, the guide display 32 which displays current time with a guide is formed in the top face of upper housing 31, and a rectangle-like aperture is formed in the dial in the guide display 32, and the lower part section, and 1st liquid crystal display panel 32a is allotted here. And the watchband 34 is attached in the lower housing 33 order edge, and the start stop switch S1 and a switch S2 - S4 are further arranged by the left and right laterals of lower housing 33. Moreover, this drawing (b) shows the condition of having opened the upper housing 31 attached free [closing motion] to lower housing 33, by the pin 38. And the 2nd liquid crystal display panel 35 is arranged, the key arrangement section 36 in which the ten key, the mode switch SM, etc. are arranged is formed in the top face of lower housing 33, and said photosensor 14 which detects closing motion of upper housing 31 by outdoor daylight under this key arrangement section 36 is arranged in it by the inferior surface of tongue of upper housing 31. Moreover, the flexible lead 37 is the lead section which connects the electronic circuitry within lower housing 33, and the electronic circuitry within upper housing 31.

[0011] Although drawing 3 is a flow chart which shows actuation of this example, it explains the actuation in various conditions with reference to this flow chart hereafter.

(b) When making it timer mode in the condition of opening the upper housing 31 of operation when considering as timer mode where upper housing 31 is opened, and setting up timer time amount, operate the mode switch SM of the 2nd switch section 16 until timer time amount is displayed on the 2nd liquid crystal display panel 35 of the 2nd display 20. At this time, actuation of the following whenever there is the actuation concerned is performed. that is, the value of Flag FS does not come out one during measurement at step S1, and it judges having not yet

started the measurement by the subtraction timer 12, and progresses to step S2, and the value of the waiting flag FA judges that not 1 but the start stop switch S1 is not operated, and progresses to step S20. at this step S20, the output of a photosensor 14 judges that it is in the condition that not L level but H level is opening upper housing 31, and progresses to step S45, and it judges the value of the open status flag FT not coming out zero, and opening upper housing 31 by 1, and it judges that there was no switch input signal from the 1st switch section 15 at step S55, and progresses to step S62. At this step S62, it detects that there was a switch input signal from the 2nd switch section 16. It judges that the mode switch SM was operated at the following step S63. Change the mode at step S64, progress to step S50, and it judges whether the value of the 2nd display mode register LM became timer mode by 1. When it becomes timer mode, timer time amount is expressed on the 2nd liquid crystal display panel 35 of the 2nd display 20 as step S51 (however, at this time, since it is before setting up timer time amount, 0 hour and 00 minutes are displayed), and it returns to step S1.

[0012] Thus, after considering as timer mode, the ten key of the 2nd switch section 16 36, i.e., the key arrangement section, is operated to set timer time amount to the subtraction timer 12. The following actuation is performed whenever a ten key is operated at this time. Namely, actuation is performed like the above and it detects that there was a switch input signal from the 2nd switch section 16 at step S62. It judges that a mode switch SM was not operated at step S63. It judges the value of the 2nd display mode register LM being already 1 at step S65, and having become timer mode, and processing which sets timer time amount to the subtraction timer 12 is performed at step S66 on it. Subsequently, it progresses to step S50, and checks again that the value of the 2nd display mode register LM is timer mode by 1, the timer time amount set up at the following step S51 is displayed on the 2nd liquid crystal display panel 35, and it returns to step S1.

[0013] (b) Where upper housing 31 is opened like the above of operation when carrying out switch actuation of the measurement initiation by the subtraction timer 12 where upper housing 31 is opened, consider as timer mode. furthermore, future — it is going to carry out, after setting to the subtraction timer 12 by making movement time amount of movement (for example, jogging) into timer time amount When the start stop switch S1 is operated that initiation of subtraction timer actuation should be directed to the subtraction timer 12, without closing upper housing 31 It judges that detect it at step S56, progress to step S57, and the value of Flag FS has not yet started the measurement actuation by the above-mentioned subtraction timer 12 by 0 during measurement, and checks that the timer time amount set to the subtraction timer 12 at step S58 is not 0 hour and 00 minutes. It progresses to step S59 on it, the value of the waiting flag FA is set to 1, and what the above-mentioned measurement should not be started but should be stood by is henceforth memorized for 10 seconds. It returns to step S1 through steps S62, S50, and S51 the appropriate back.

[0014] And henceforth, the actuation like a less or equal is repeated for 10 seconds, and it stands by the measurement initiation by the subtraction timer 12. That is, at step S1, it checks the value of Flag FS yet not being set to 1 during measurement, and having not started measurement by 0, and progresses to step S2, and the value of the waiting flag FA checks that it is waiting at 1 for [above-mentioned] 10 seconds, and progresses to the following step S3. Although it progresses to step S20 at step S3 when judging whether it is the alarm sound timing in every second and having not become this timing, the information sound which progresses to step S4, sends a signal to alarm sound equipment 21, and takes 1 second for progress is generated at the time of this timing. Subsequently, at step S5, although it judges whether 10 seconds have passed since actuation of the start stop switch S1, when having not passed, it progresses to the processing after step S20. That is, when having not yet closed upper housing 31, it returns from step S20 to step S1 through steps S45, S55, S62, S50, and S51. While such actuation is repeated several times, although he will consider the facilities of the cellular phone for movement and will close upper housing 31, after that, after processing of the above-mentioned steps S1–S5, the user of this example progresses to step S20, detects that the output of a photosensor 14 has L level here, and progresses to the processing after step S21. That is, at step S21, the value of the open status flag FT is not 0 but 1, and it memorizes having

judged that upper housing 31 was opened immediately before, having set the value of this open status flag FT to 0 at step S41 on it, and having closed upper housing 31. Subsequently, at step S42, stop the display action in the 2nd display 20, and the display action in the 1st display drive circuit 17 is started. Although it progresses to step S31 and the current time from the time-of-day counting circuit 8 is displayed on 1st liquid crystal display panel 32a of the 1st display 18 when it progresses to step S29, the value of the 1st display mode register UM judges 0 and it has become 0. When it is 1, the timer time amount set as the subtraction timer 12 is displayed on the above-mentioned 1st liquid crystal display panel 32a, and it returns to the appropriate back step S1. Processing of steps S1-S5, S20-S22, S29-S31, and S1 is repeated henceforth.

[0015] Although for [of the above] 10 seconds will pass while the actuation like the above is repeated, then, that is detected at the above-mentioned step S5, and it progresses to step S6. And at step S6, it memorizes having started measurement, having used [after checking that the above-mentioned timer time amount had not become in 0 hour and 00 minutes, progressed to step S7, and] the value of Flag FS as 1 during measurement, and RS flip flop 10 is made into a set condition at step S8, and measurement by the subtraction timer 12 is actually started. Subsequently, in step S9, even when 1 is set to the 1st display mode register UM, it considers as the 1st timer mode automatically and current time is displayed on 1st liquid crystal display panel 32a of the 1st display 18, it switches to the display of timer time amount compulsorily. At the following step S10, the value of the waiting flag FA is set to 0, and the standby for [above-mentioned] 10 seconds memorizes the ended purport. At step S11, finish the standby for [above-mentioned] 10 seconds on it, and the purport by which measurement of the remaining time by the subtraction timer 12 was actually started is reported. In order to demand movement initiation (for example, start of a jogging) from a user, a signal is sent to alarm sound equipment 21, and a start sound is made to generate (that is, a user). Since movement is started according to this start sound, the measurement initiation of the remaining time and the above-mentioned movement initiation by the subtraction timer 12 can be made in agreement.

[0016] After it carries out like the above and movement of a user and measurement of the residual time by the subtraction timer 12 begin, steps S20-S22 and processing of S29 and S30 are performed, and it returns to step S1. And at this step S1, the value of Flag FS is already 1 during measurement, and it judges that measurement of the residual time by the subtraction timer 12 is started, and in step S15, when judging whether it is 0, the timer time amount, i.e., the remaining time, of the subtraction timer 12, and having not become 0, actuation of returning to step S1 through steps S20-S22, and S29 and S30 is repeated.

[0017] although the above is actuation in the case of starting movement to compensate for termination of the standby time for the 10 above-mentioned seconds — before termination of this standby time — movement — starting — this — doubling — counting of the subtraction timer 12 — actuation is started compulsorily — it is going to make — the start stop switch S1 is operated at the time. At this time, detect this actuation at step S23, and it checks that the value of Flag FS is 0 during measurement at step S26. Furthermore, it judges that the timer time amount of the subtraction timer 12 is not 0 hour and 00 minutes at step S35. Progress to step S36 and the value of Flag FS is set to 1 during measurement. It is supposed that RS flip flop 10 is made into a set condition at step S37, and the subtraction timer 12 is made to start measurement of the remaining time, set the value of the 1st display mode register UM to 1, consider as the 1st timer mode, the value of the waiting flag FA is set to 0 at step S39, and standby is interrupted. It becomes return and the same actuation as the above-mentioned case (steps S1, S15, S20-S22, S29, S30, S31) through steps S29 and S30 at step S1.

[0018] In addition, when exercising carrying out and measuring the remaining time with the subtraction timer 12 like the above, a switch S2 is operated to come to check current time to inside. At this time, this actuation is detected at step S24, and the value of the 1st display mode register UM is set to 1 to 0 at step S25, namely, it considers as the 1st time stamp mode, progresses to step S29, and checks that the value of the 1st display mode register UM is already 0 here, the current time from the time-of-day counting circuit 8 is expressed to 1st liquid crystal display panel 32a as step S31, and it returns to step S1. Moreover, although a switch S2 is operated again to return from this condition, the display condition, i.e., 1st timer mode, of the

remaining time of the subtraction timer 12, this actuation is detected at step S24 also in this case, the value of the 1st display mode register UM is set to 1 at step S25, the remaining time of the subtraction timer 12 is expressed to 1st liquid crystal display panel 32a as step S30 through step S29, and it returns to step S1.

[0019] Moreover, after carrying out like the above and starting counting of the remaining time by the subtraction timer 12, before the remaining time is set to 0, the start stop switch S1 is operated to stop this counting compulsorily. this time — this actuation — step S23 — detecting — step S26 — under measurement — the value of Flag FS — 0 — not coming out — 1 — the current above — it is inside when performing counting — checking — a it top — step S27 — under this measurement — the value of Flag FS — 0 — carrying out — the above — it memorizes stopping counting. subsequently, the above according [using RS flip flop 10 as a reset condition at step S28] to the subtraction timer 12 — stop counting and pass step S29 — at step S30, the remaining time in the time is displayed on 1st liquid crystal display panel 32a of the 1st display 18, and it returns to step S1.

[0020] When measurement of the remaining time by the subtraction timer 12 is continued and the remaining time is set to 0, without interrupting measurement like the above The purport which detects it at step S15, sets the value of Flag FS to 0 during measurement at the following step S16, and stops measurement is memorized. Subsequently, although the information sound of the purport that suspended measurement actuation of the subtraction timer 12 by having made RS flip flop 10 into the reset condition, sent the signal to alarm sound equipment 21 at step S18, and the remaining time of the subtraction timer 12 was set to 0 is made to generate at step S17 A user will recognize that the time amount of only the timer time amount set as the subtraction timer 12 passed by this, and movement will be suspended.

[0021] (c) When upper housing 31 is closed after setting timer time amount to the subtraction timer 12 as mentioned above, when switch actuation of measurement initiation is carried out after closing upper housing 31 Detect it at step S20, progress to step S21, and the purport from which the value of the open status flag FT is not 0 is judged. It memorizes having closed upper housing 31, having used the value of the open status flag FT as 0 at step S41 on it, and at step S42, the display by the 1st display 18 is started and the display by the 2nd display 20 is suspended. And it progresses to steps S29–S31, timer time amount or current time is displayed on 1st liquid crystal display panel 32a of the 1st display 18 of the above according to the value of the 1st display mode register UM, and it returns to step S1.

[0022] Although the start stop switch S1 will be operated to compensate for movement initiation after carrying out and closing upper housing 31 like the above Also in this case, detect this actuation at step S23, set the value of Flag FS to 1 during measurement at step S36 through steps S26 and S35, make RS flip flop 10 into a set condition at step S37, and measurement actuation of the subtraction timer 12 is made to start. It considers as timer mode, using the value of the 1st display mode register UM as 1 at step S38, and the value of the waiting flag FA judges the purport which is not 1 at step S39, and it returns to step S1 through processing of steps S29 and S30.

[0023] Although measurement actuation will be started without carrying out and having a standby time for 10 seconds like the above After this, in the above-mentioned (b) (namely, open upper housing 31 and switch actuation of measurement initiation is performed), it is. then, the actuation in the case of starting measurement of the remaining time by the subtraction timer 12 from from, when upper housing 31 is closed and 10 seconds have passed since the above-mentioned switch actuation and the same actuation (measurement halt actuation for example, it is based on actuation of the start stop switch S1 — compulsory —) Actuation when the remaining time of the subtraction timer 12 is set to 0 etc. is made.

[0024] (d) Although other (b)s of the above-mentioned of operation explained the actuation at the time of operating the start stop switch S1 in the condition that upper housing 31 is open, and directing measurement by the subtraction timer 12, and closing upper housing 31 before 10-second progress, the actuation at the time of leaving after 10-second progress in the condition of having opened upper housing 31 is as follows. namely, detect actuation of the above-mentioned start stop switch S1 at step S56 like the above-mentioned case, and pass steps

S57-S59, and S62, S50 and S51 — pass return and steps S2-S5 to step S1 — steps S20, S45, S55, S62, S50, S51, and S1 and the actuation which progresses are repeated. And when the 10 above-mentioned seconds pass, that is detected at step S5, processing of steps S6-S11 is performed, and it returns to step S1 through steps S20, S45, S55, S62, S50, and S51.

Henceforth, when the actuation which returns to step S1 through processing of steps S15, S20, S45, S55, S62, S50, and S51 is repeated and the remaining time of the subtraction timer 12 is set to 0, henceforth, processing of steps S15-S18 is performed like the above-mentioned case, and information of the purport that the time amount set as the subtraction timer 12 at the beginning passed etc. is performed.

[0025] Moreover, like the above, where upper housing 31 is opened, when performing counting of the remaining time by the subtraction timer 12, the start stop switch S1 is operated to interrupt this compulsorily to inside. in this case, detect the actuation concerned at step S56, and pass step S57 — step S60 — progressing — under measurement — the value of Flag FS — 1 — carrying out — the above — counting — suspending actuation — memorizing — a it top — step S61 — progressing — RS flip flop 10 — a reset condition — carrying out — counting of the subtraction timer 12 — actuation is suspended. Then, it passes through steps S62 and S50, and at step S51, the remaining time of the subtraction timer 12 in the case of the above-mentioned halt is displayed on 1st liquid crystal display panel 32a, and returns to step S1.

[0026] Moreover, it sets in the condition (when counting of the remaining time by the subtraction timer 12 is performed, all in case this is not performed are included) of having closed upper housing 31. When upper housing 31 is opened, it is detected at step S20, it progresses to step S45, and the value of the open status flag FT is 0. Till just before What upper housing 31 had closed is judged and it progresses to step S46 on it, and the value of the open status flag FT is set to 1, the display action of the 1st display 18 is stopped, the display action of the 2nd display 20 is started, and it progresses to the following step S48. At step S48, when it judges whether the value of Flag FS is 1 during measurement, i.e., is the remaining time by the subtraction timer 12 measuring?, and is not under measurement, it progresses to step S50 directly, but when it is under measurement, it considers as timer mode, using the value of the 2nd display mode register LM as 1 at step S49, and progresses to step S50 on it. And in step S50, it judges whether the value of the 2nd display mode register LM is the 2nd timer mode by 1, and although it progresses to display processing in other modes when it is not this mode, when it is this mode, the remaining time of the subtraction timer 12 is displayed on the 2nd liquid crystal display panel 35 of the 2nd display 20 at step S51.

[0027] Next, the 2nd example of the invention in this application is explained. The circuitry and the appearance of this example are the same as the circuitry and the appearance in the 1st above-mentioned example, and are shown by drawing 1 and 2, respectively. However, the waiting flag FA in RAM13 of drawing 1 When the start stop switch S1 is operated in the 1st above-mentioned example that measurement of the remaining time by the subtraction timer 12 should be started in the condition of opening upper housing 31, although the set value was a flag register used as 1, after that for 10 seconds In this 2nd example, when the start stop switch S1 is operated that counting of the remaining time by the subtraction timer 12 should be started where upper housing 31 is opened, only between until it closes upper housing 31 from after that serves as a flag register from which a set value is set to 1.

[0028] Drawing 4 is a flow chart which shows actuation of this 2nd example. Although this flow chart is the same as the flow chart of drawing 3 about the 1st example in general (in drawing 4) Give the same step number as the step ten bar in drawing 3 to the step about processing of the step in drawing 3 , and the same processing. Processing (processing for waiting for the progress for 10 seconds from, and starting measurement by the subtraction timer 12, when upper housing 31 is closed) of steps S2-S11 of drawing 3 , and processing of steps S39 and S40 have fallen out. Instead, processing of step S42 a-S42c is newly added.

[0029] New actuation like a less or equal is performed by the difference on the flow chart like the above. Namely, after opening upper housing 31, making it timer mode and setting timer time amount as the subtraction timer 12 When the start stop switch S1 is operated that measurement by the subtraction timer 12 should be directed without closing upper housing 31

Although the timer time amount which detects the actuation concerned at step S56, and is set as the 2nd liquid crystal display panel 35 by the subtraction timer 12 at step S51 like the case of the 1st example through steps S57-S59 and processing of S62 and S50 is displayed and it returns to step S1 As long as there is no switch actuation, even if there is progress for 10 seconds after this only by repeating processing of steps S20, S45, S55, S62, S50, S51, and S1, counting by the subtraction timer 12 is not started, but a standby condition continues. And when upper housing 31 is closed in this standby condition, it memorizes that detected it at step S20 and the value of the open status flag FT was set to 1 instead of 0 at step S21, and judged what upper housing 31 closed just before this, progressed to step S41 on it, set the value of the open status flag FT to 0, and upper housing 31 has closed. At step S42, the display action by 1st liquid crystal display panel 32a of the 1st display 18 is started the appropriate back. The display action by the 2nd liquid crystal display panel 35 of the 2nd display 20 is stopped, and the value of the waiting flag FA is 1 in the following step S42a, That is, the start stop switch S1 is operated in the condition that upper housing 31 is open, and after that, what upper housing 31 closed for the first time is judged this time, and it progresses to step S42b. Initiation of measurement by the subtraction timer 12 is memorized using the value of Flag FS as 1 during measurement in this step S42b. In the following step S42c Return the value of the waiting flag FA to 0 from 1, and it memorizes having finished the above-mentioned standby condition. It passes through processing of steps S35 and S36. RS flip flop 10 at step S37 in the set condition It considers as the 1st timer mode at step S38, the remaining time of the subtraction timer 12 is expressed to 1st liquid crystal display panel 32a as step S30 through step S29, and it returns to step S1. Steps S15, S20-S22 and actuation of S29, S30, and S1 will be henceforth repeated like said 1st example, and the remaining time of the subtraction timer 12 will wait to be set to 0.

[0030] Since the above-mentioned measurement by the subtraction timer 12 is actually started from the time of upper housing 31 closing after that when the start stop switch S1 is operated like the above that initiation of measurement by the subtraction timer 12 should be directed before closing upper housing 31 in this example, a user should just start movement etc. according to closing upper housing 31.

[0031] In addition, after carrying out like the above and starting measurement by the subtraction timer 12, actuation when the remaining time of the subtraction timer 12 is set to 0 etc. is the same as that of the case of the 1st example as mentioned above.

[0032] In addition, deformation application is variously possible for this invention within limits which are not limited to the above-mentioned example and do not deviate from this invention. For example, although each of above 1st and examples of 2 closed the Gokami section case 31 and used subtraction timer ability when the start stop switch S1 was operated, where upper housing 31 is opened, this is not restricted to subtraction timer ability, but, of course, you may be a stop watch function.

[0033]

[Effect of the Invention] When upper housing is open and there is measurement initiation actuation, invention of claim 1 It is a thing concerning the electronic equipment with a case which can be opened and closed and which started measurement after predetermined time progress from the time of the actuation concerned. Moreover, when upper housing is open and there is measurement initiation actuation, invention of claim 2 Then, since the electronic equipment with a case which can be opened and closed and which started measurement is started when upper housing is closed All enable offer of the electronic equipment with a case which can be opened and closed and which can avoid the error of the measurement result by having closed upper housing and having started the actuation for measurement after measurement initiation actuation.

[Translation done.]

* NOTICES *

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1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.**** shows the word which can not be translated.

3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is drawing showing the circuitry of the 1st example of the invention in this application.

[Drawing 2] It is drawing showing the appearance of the above-mentioned example.

[Drawing 3] It is the flow chart which shows actuation of the above-mentioned example.

[Drawing 4] It is the flow chart which shows actuation of the 2nd example of the invention in this application.

[Description of Notations]

10 RS Flip Flop

11 AND Gate

12 Subtraction Timer

13 RAM

14 Photosensor

15 1st Switch Section

16 2nd Switch Section

18 1st Display

20 2nd Display

31 Upper Housing

32a The 1st liquid crystal display panel

33 Lower Housing

35 2nd Liquid Crystal Display Panel

UM The 1st display mode register

LM The 2nd display mode register

FT Open status flag

FS It is a flag during measurement.

FA Waiting flag

SM Mode switch

S1 Start stop switch